

1 Introduction, Mandates and Statement of Mission

Perhaps no other issue in the management of natural resources is as critical to the well-being of our society as the provision of pure and adequate drinking water supplies. This is especially true in recent years, given the frequency with which incidents of contaminated wells, fouled lakes, and water-borne disease outbreaks have been reported. The protection and careful management of public water supply reservoirs and their watersheds will thus continue to be of utmost importance in future years.

This document outlines a plan for protecting and managing the watersheds of the Sudbury Reservoirs, the only emergency back-up to an extensive water supply system that could be utilized to serve the emergency drinking water needs of 2.2 million people (MWRA/MDC, 1997).

1.1 2003 Reorganization of State Agencies and Effects on this Plan

A major change occurred in the Executive Office of Environmental Affairs during the preparation of this document for public review. On June 30, 2003, Governor Mitt Romney signed legislation that merged the Metropolitan District Commission (MDC) and the Department of Environmental Management (DEM) into the new Department of Conservation and Recreation (DCR). There are three new Divisions within the Department of Conservation and Recreation: the Division of Urban Parks and Recreation (DUPR), the Division of State Parks and Recreation (DSPR), and the Division of Water Supply Protection (DWSP).

Throughout this Sudbury Land Management Plan, attempts have been made to make appropriate changes in terminology. In some contexts, particularly in historical discussions, the term “Metropolitan District Commission/Division of Watershed Management” or simply MDC or MDC/DWM remain accurate (e.g., “MDC developed land acquisition models in 1998 for the Ware River”). In the context of this plan, “the Division” refers to the Division of Water Supply Protection or the former Division of Watershed Management, not to any other Division in the Commonwealth. The Office of Watershed Management (OWM) is the specific office within the current Division of Water Supply Protection whose purpose is the management of Boston's water supply watersheds. DCR/DWSP/OWM is the current equivalent of the old MDC/DWM.

While the agency adjusts to structural changes, the agency mission remains unchanged. Like the former MDC/Division of Watershed Management, the DCR/Division of Water Supply Protection/Office of Watershed Management manages and protects the drinking water supply watersheds for 2.2 million residents of Massachusetts. The Ware River watershed, Quabbin Reservoir watershed, and Wachusett Reservoir watershed are the sources of drinking water for distribution by the Massachusetts Water Resources Authority (MWRA). The Sudbury Reservoirs are currently off-line emergency back-ups for the system.

1.2 Agency Mission and Mandates

The DCR/DWSP/OWM and the Massachusetts Water Resources Authority (MWRA) supply drinking water to 47 Massachusetts communities, most of which are in the metropolitan Boston area. The OWM is responsible for collection and storage of water, protection of water quality, and management of the watersheds (Quabbin Reservoir, Ware River, Wachusett Reservoir and Sudbury Reservoir). The watershed management group was established in 1984 when the state legislature divided the former MDC Water Division into the new Division of Watershed Management (DWM), responsible for watershed operations and management, and the Massachusetts Water Resources Agency (MWRA), responsible for water

distribution and treatment. As noted above, the MDC/DWM became the DCR/DWSP on June 30, 2003, and more recently the Office of Watershed Management. DCR is a multi-faceted state agency within the Executive Office of Environmental Affairs, responsible for reservations, parks and recreational facilities, parkways, and drinking water supply watersheds.

The former MDC Division of Watershed Management's mission was laid out in its enabling legislation and subsequent amendments, found in MGL Ch. 92, Sections 104-120 (repealed by 2003, 26, Sec. 289. Also see 2003, 26, Sec. 715). The statute directed the DWM to "*...construct, maintain and operate a system of watersheds, reservoirs, water rights and rights in sources of water supply, ...supply thereby a sufficient supply of pure water to the Massachusetts Water Resources Authority, and ...utilize and conserve said water and other natural resources in order to protect, preserve and enhance the environment of the commonwealth and to assure the availability of pure water for future generations.*" In order to meet these legislative mandates, the Division established programs in Environmental Quality, Engineering and Construction, Watershed Operations, Public Education, and Natural Resources, all tasked primarily to the protection of this drinking water supply. The long-term goals of the DWSP/OWM are to:

- Ensure availability of clean water for present and future generations.
- Effectively manage, protect, conserve and enhance the natural and structural resources under the responsibility of the OWM to ensure public health and safety.
- Prevent adverse environmental impacts that could degrade watershed resources.
- Provide educational programs in order to protect watershed resources.
- Conduct research that guides and assists the effective management of watershed resources.
- Develop emergency contingency plans that address existing and potential threats to OWM resources.

Chapter 92, Section 105 of the Massachusetts General Laws also states that the Division (now Office) of Watershed Management "...shall be subject to the provisions of chapter seven-hundred and thirty-seven of the acts of 1972." Chapter 737, commonly referred to as the "Kelly-Wetmore bill," included far-reaching guidelines on the types and extent of both public and management activities permitted on watershed properties. Section 8 of Chapter 737 states that: "Lumbering or logging operations shall be permitted...to the extent and for the purpose of maintaining and conserving its forests in a healthful state of natural ecological balance consistent with reservoir and watershed purposes..." While Chapter 737 specifically addresses the treatment of the lands of the Quabbin section, which includes properties at Quabbin and Ware River, it has been interpreted to provide guidance for the management of OWM properties on the Wachusett and Sudbury reservoir watersheds as well.

1.3 "Green Certification" of MA State Forest Land Management

On April 10, 2004, all state forest lands in Massachusetts became "green" certified. Certification provides third-party review and auditing of forest management practices for the long-term sustainability of their relationship to the environment and to the regional human economy. The certification was granted by Scientific Certification Systems (www.scs1.com), an independent, third-party certification body accredited by the international Forest Stewardship Council (www.fsc.org). Certified lands are managed by different agencies of the Executive Office of Environmental Affairs (EOEA), including the Division of State Parks and Recreation (285,000 acres), the Division of Fisheries and Wildlife (110,000 acres), and the Division of Water Supply Protection (104,000 acres). With this certification Massachusetts becomes the first state in which multiple forest management agencies have joined forces to earn certification of all of the publicly managed state forestland. The 1997 certification of Quabbin Reservoir watershed forestry practices was the first certification of state lands in North America. Certification is an endorsement, but conditions for improvements in management practices must be attained within a five-year period for this endorsement to

remain valid. The full MA certification report, including the details of these conditions is available online, at <http://www.mass.gov/envir/forest/default.htm>.

1.4 Plan Overview

In formulating this management plan, OWM staff has provided the necessary interpretation of the above mandates so that they could be transformed into specific management goals and direction. Although this plan addresses various natural resources, it is mainly focused on managing for the OWM's primary purpose - the long-term protection and maintenance of water quality. The land management strategies outlined in the plan are primarily designed to establish and maintain the most effective and practical watershed cover in order to maximize the natural filtering capability of the lands surrounding the Sudbury and Foss Reservoirs. The plan also makes recommendations for the protection of the OWM lands within the South Basin at the Cedar Swamp, along the Sudbury River, and surrounding the Brackett and Stearns Reservoirs, which are not connected to the OWM/MWRA water supply system.

As a land management plan, this document focuses on enhancing the water supply protection qualities of OWM land surrounding the Sudbury reservoirs. Additional documents focus on other watershed protection activities in the Sudbury Reservoir watershed. The Sudbury Watershed Protection Plan (MWRA/MDC, 1997) sets the program direction for reducing major threats to the water supply within the entire drainage, most of which occur on private, developed or agricultural land. For example, the key threats listed in the Watershed Protection Plan include phosphorus loading and microbiological contamination (from residential and agricultural areas). Urban runoff to the reservoir from the estimated 26% of the watershed that is impervious due to development contributes a range of additional contaminants. The 1994 Sudbury Public Access Plan and the December 2002 update of that plan focus on the threat to the water supply associated with the potential for human contamination resulting from authorized and unauthorized public access to OWM land.

This plan calls for the maintenance of a diverse, multi-layered forest cover on OWM land in the watersheds. This decision was based on the review and analysis of documents, studies, and professional opinions, and represents the culmination of hundreds of hours of reading and discussions by OWM staff. As a result, the management program described in the plan is both conservative and appropriate, given the current state of knowledge on watershed management.

OWM recognizes, however, that the science of watershed management is far from exact, and that gaps exist in the current understanding of watershed relationships. Despite these gaps, the OWM is directed to act on the current state of knowledge and to manage under uncertainty. This plan should be viewed as an "adaptive watershed management plan" or a "working hypothesis," to be applied but updated and modified as new information comes to light.

This plan primarily focuses on management over the next ten years, but it also projects the forest cover and watershed conditions 60 years into the future. This long-range view is clearly consistent with the OWM mandate "to assure the availability of pure water for future generations." The importance of this long-range view is that it plans for the future integrity of the "land/forest filter" in the face of such events as hurricanes, floods, fires, insect and disease outbreaks, environmental pollution, and other impacts unknown to managers today.

This plan relies heavily on the standard operating procedures developed in the MDC Quabbin Land Management Plan (1995) in which a large amount of useful information was researched, compiled and summarized. The Sudbury watersheds, however, are significantly different from the Quabbin watershed. The Sudbury watersheds are more developed with lower percentages of OWM ownership and

different forest composition, resulting in a strong emphasis on stream/reservoir buffer forest management and urban forestry initiatives.

The plan's sections include: 1) Introduction, Mandates, and Statement of Mission; 2) Description of Sudbury Reservoir Watershed Resources; 3) Research-based Principles Guiding Watershed Management; 4) Watershed Management Goals; 5) 2004-2023 Management Plan Objectives and Methods, for Land Protection, Forest Management, Management of Biodiversity, Wildlife Management, and the Protection of Cultural Resources; 6) Research, Inventory, and Monitoring Needs; 7) Public Involvement; 8) Literature Cited and General References; and 9) Glossary of Terms. The plan is written so that the management components are based on principles outlined in sections that precede them. The OWM's intent is for this plan, when implemented, to achieve drinking water protection while also allowing controlled public use of some drinking water supply lands.

